no functioning grafts (longest survival was ten months).

Nineteen pancreatico - duodenal grafts have been placed (by eight transplant teams), with three functioning grafts, the longest being for 12 months. Recipients usually had juvenile onset diabetes mellitus and renal failure and received concurrent cadaveric renal grafts. The pancreas functioned immediately, and there is little evidence to suggest pancreatic failure with rejection. Patient death has been usually associated with renal failure. One death attributable to the pancreatico-duodenal graft was due to acute perforation of the duodenal portion. These studies indicate that the pancreas is less antigenic than the kidney and suggest that pancreatico - duodenal grafts alone be done for juvenile onset diabetes without terminal nephropathy. If the characteristic vascular lesion of diabetes mellitus can be altered by such a pancreatic graft, then this will become one of the most commonly performed transplant procedures.

The number of transplants of small bowel attempted because of complications of intraperitoneal perforation and infection is less than ten. The longest survival to date has been 26 days. A new approach is to insert a six-foot jejunal-ileal segment subcutaneously between the pylorus and cecum. This exterioration permits more precise monitoring of the graft without need of repeated laparotomy and decreases the risk of perforation and infection.

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Hepatitis in Patients Undergoing Hemodialysis or Transplantation

Patients undergoing hemodialysis have long been known to risk getting serum hepatitis because of their recurrent transfusion requirements. The exact magnitude of this risk was not clear until the development of an immunoassay for the hepatitis-associated antigen (HAA, Australia antigen, serum hepatitis antigen) and its association with serum hepatitis.

Epidemics of clinical serum hepatitis among the healthy staff of dialysis centers have now been traced to asymptomatic, HAA-positive dialysis patients. Clinical and laboratory features of hepatitis in these two patient groups are different. In previously healthy staff, an acute disease developed, characterized by serum bilirubin over 3 mg per 100 ml, SGPT over 1000 units and duration of elevated SGPT and HAA-titers of less than ten weeks. The patients on dialysis manifest a chronic anicteric disease, with little or no elevation of serum transaminases, and prolonged persistence of positive HAA titers.

Recently fourteen patients have received renal transplants while carrying the HAA. Immunosuppression did not convert these cases into fulminant hepatitis; all patients had either subclinical or mild clinical disease. However, HA antigenemia continues in all. These carriers have been responsible for eight clinical infections in family members. HAA can be transmitted by the oral, fecal or urine routes as well as by blood. Prophylactic hyperimmune human gamma globulin has not proven effective against accidental needle punctures.

Serial hepatic biopsy studies over 12 months show no signs suggestive of progressive hepatitis. However, the late effects of continued antigenemia in immunosuppressed patients is unknown. The epidemiologic consequences of converting patients on hemodialysis into socio-economically rehabilitated, asymptomatic carriers is a formidable one.

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